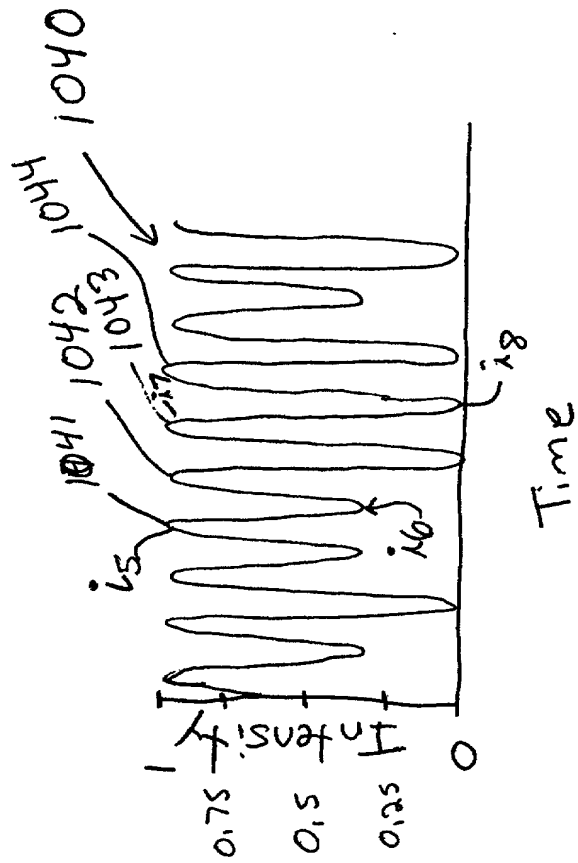


000 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023 024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046 047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069 070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092 093 094 095 096 097 098 099 100



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Fig. 1f

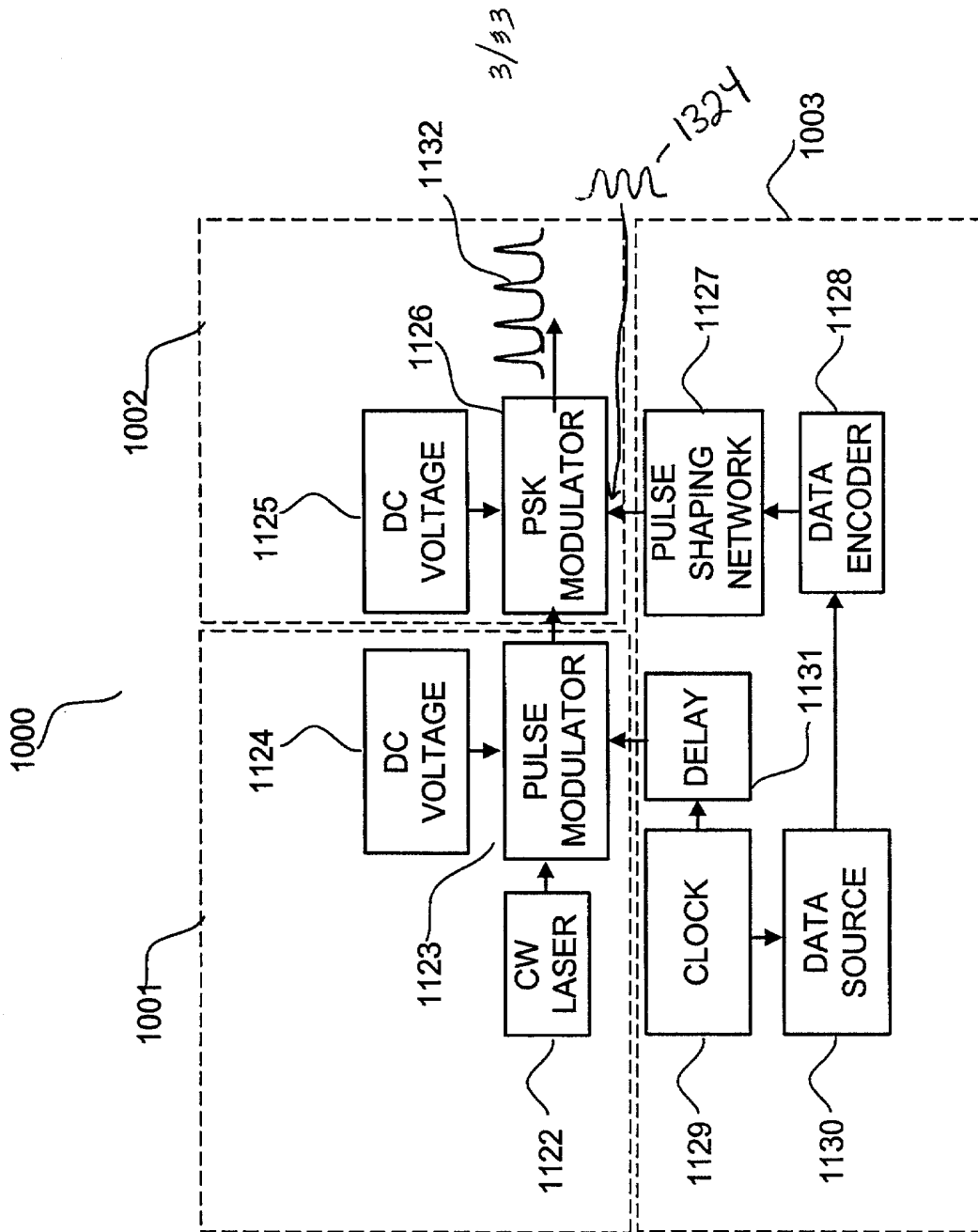


Fig.2

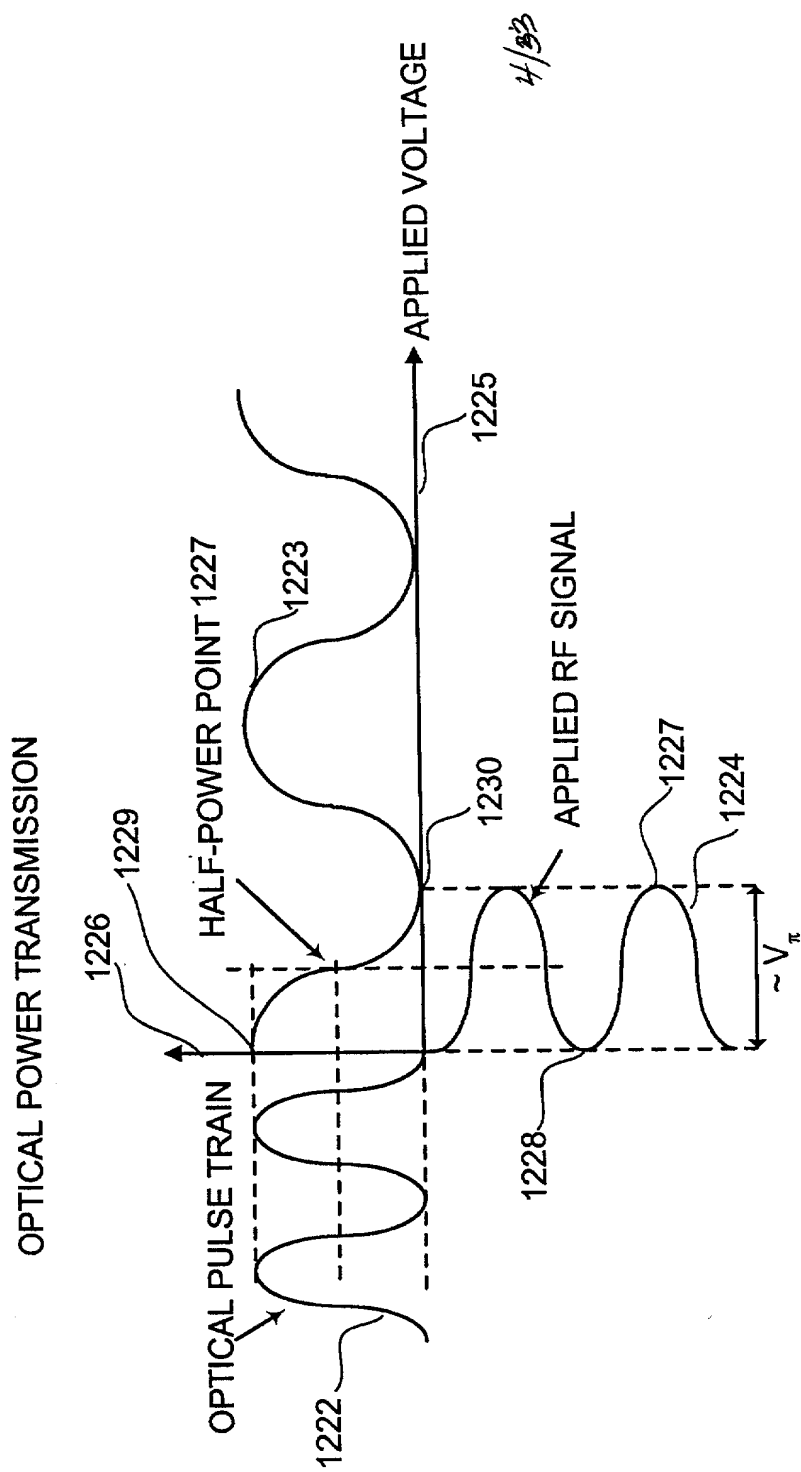
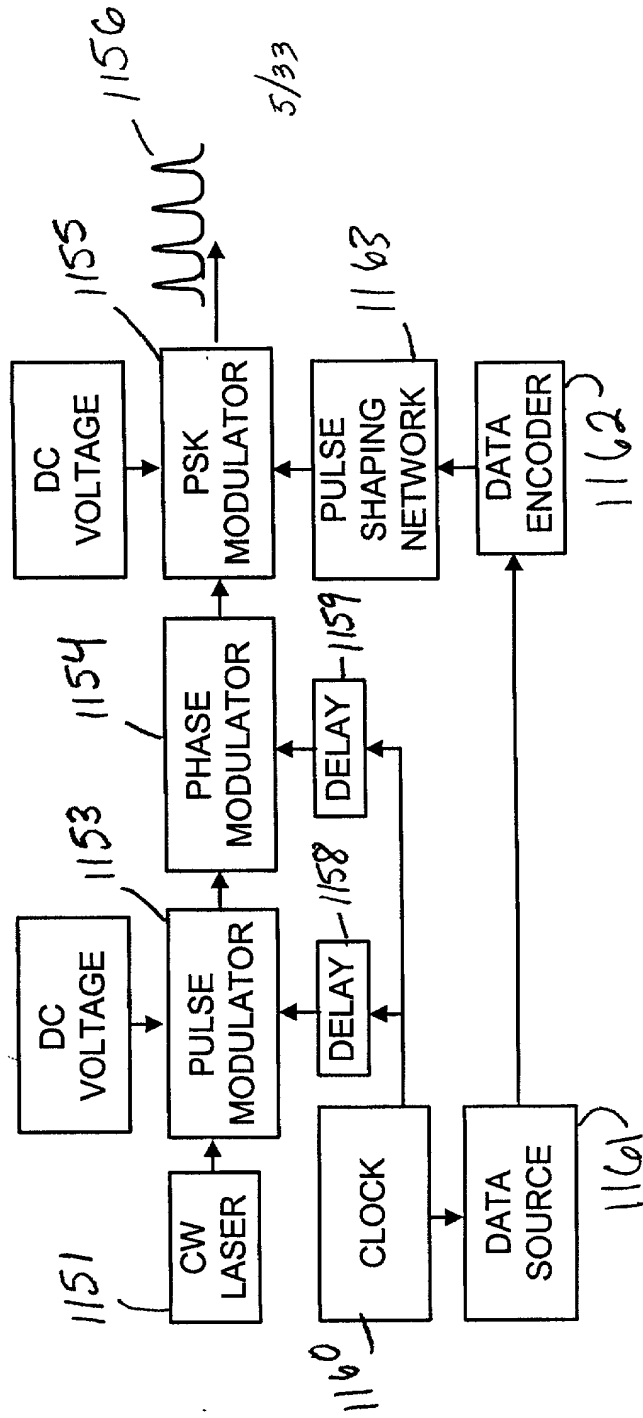


Fig. 3

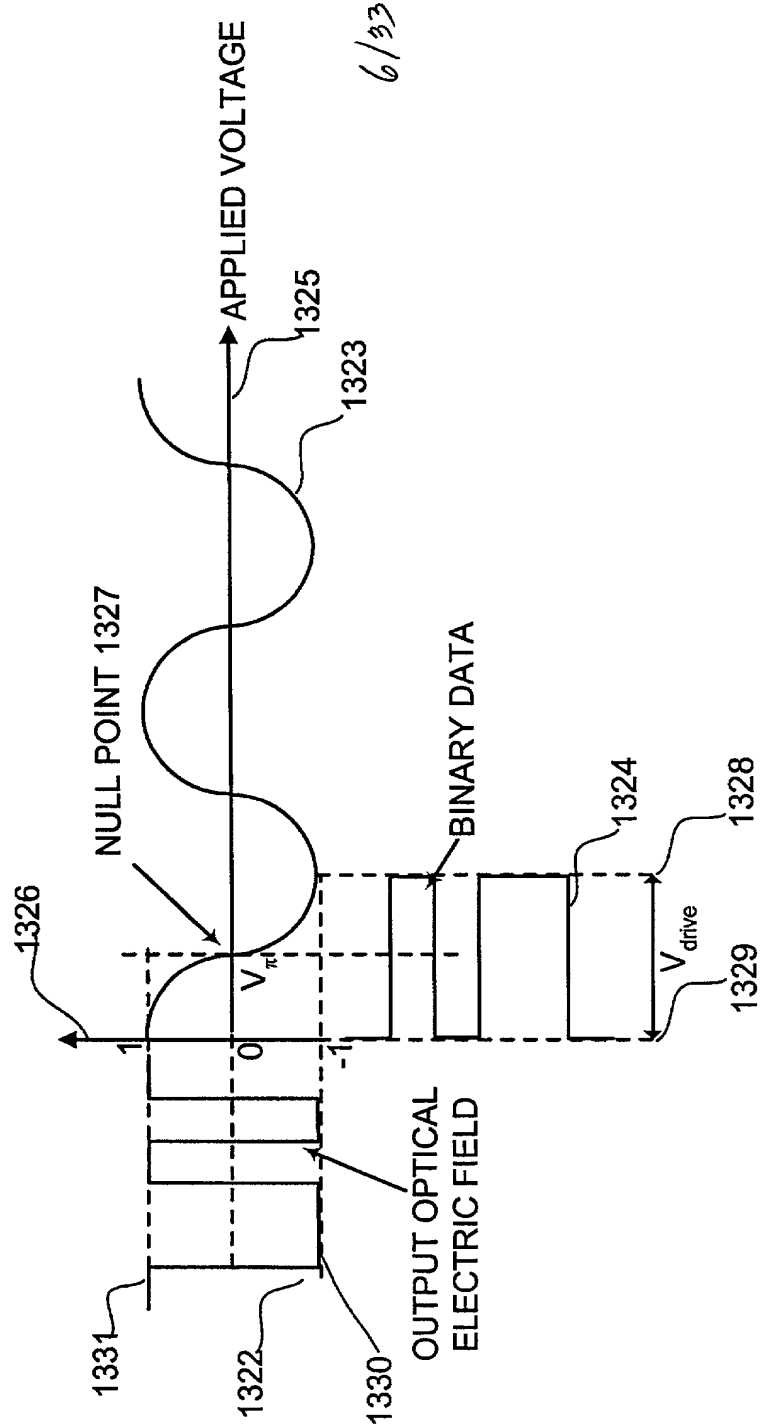
1150



Chirped RZ-BPSK

Fig. 4

OPTICAL ELECTRIC FIELD TRANSMISSION



551

OPTICAL POWER TRANSMISSION

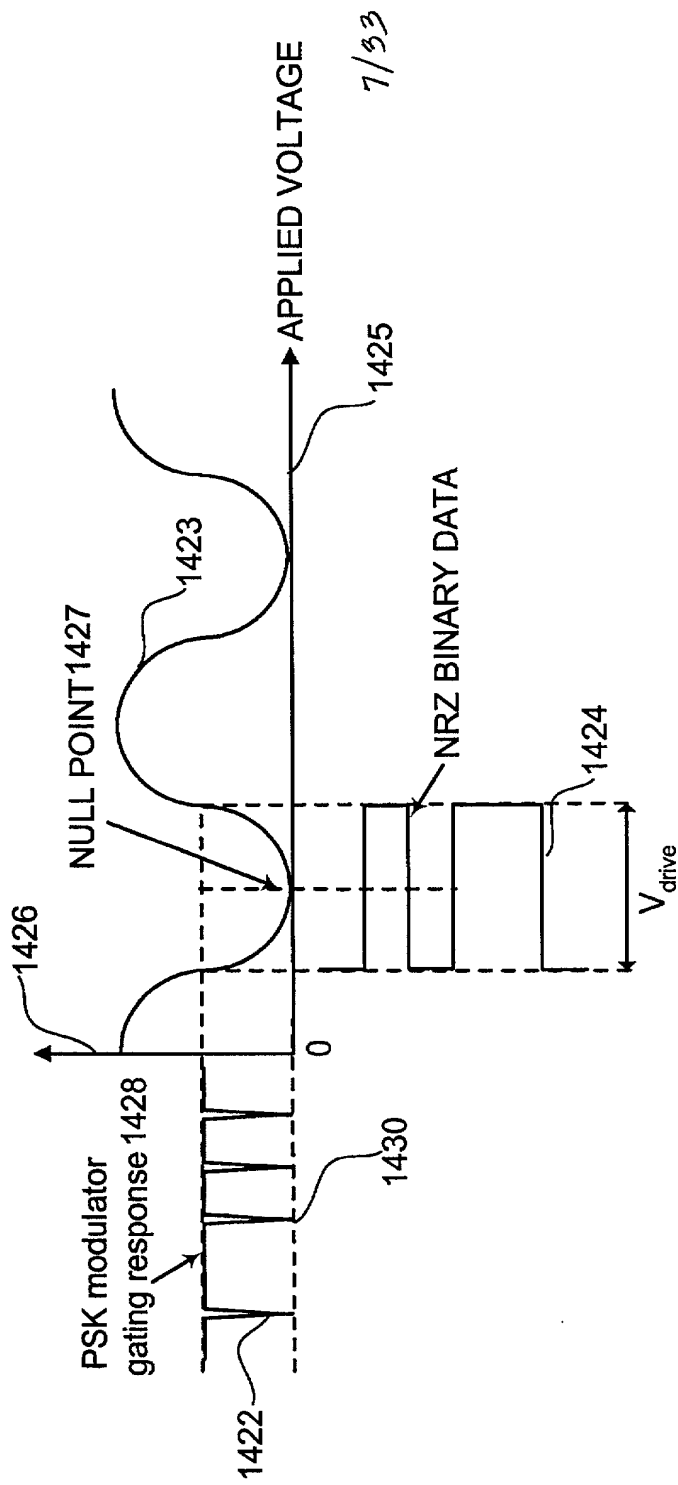


Fig. 6

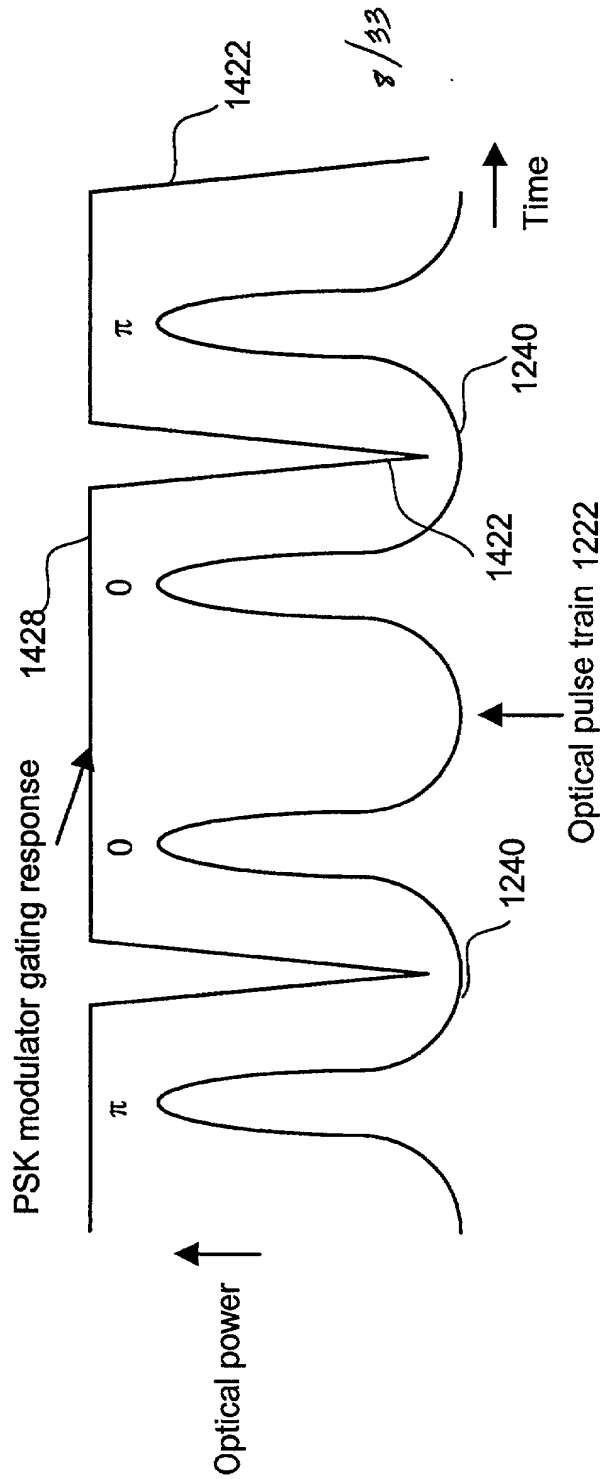


Fig. 7

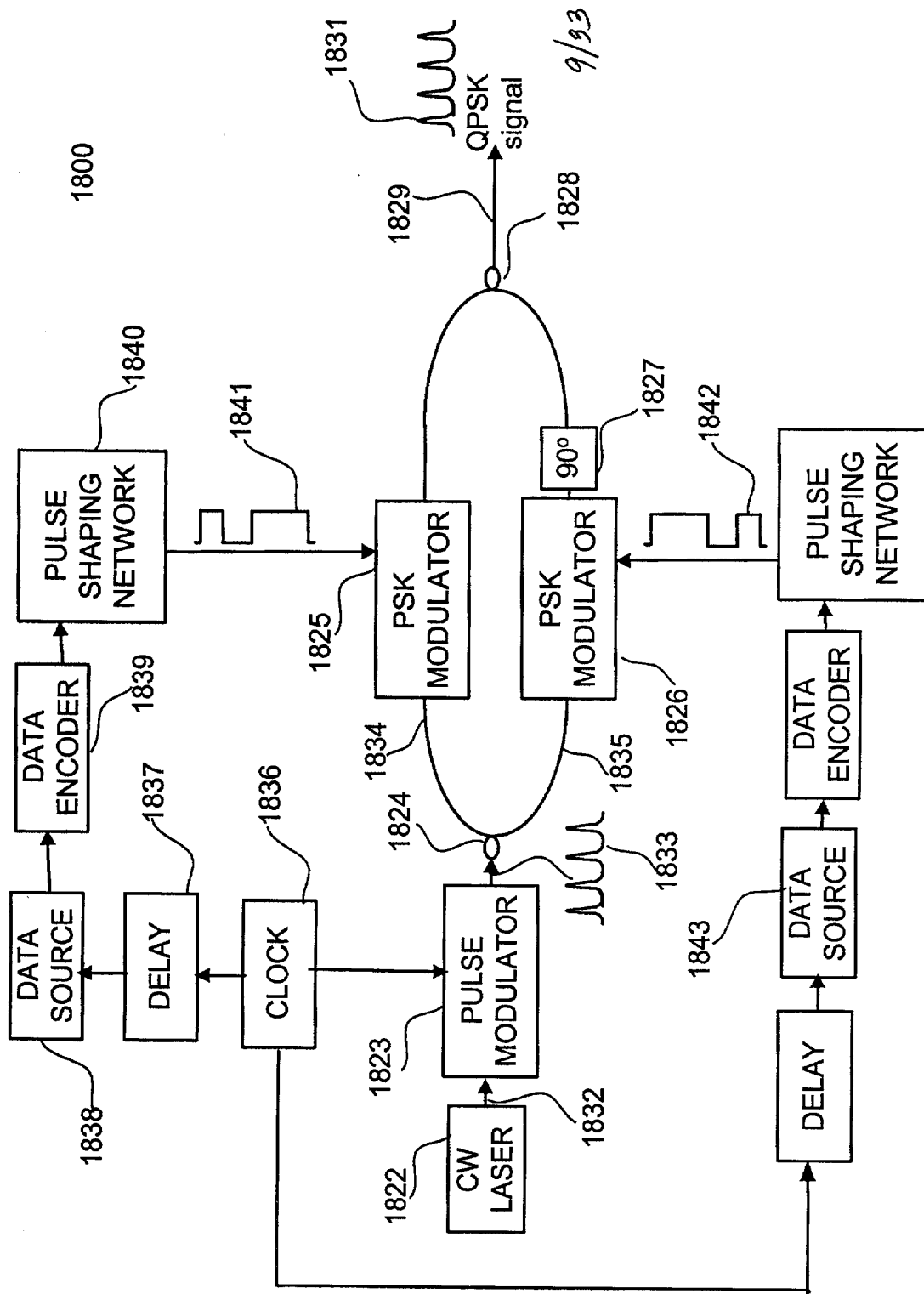
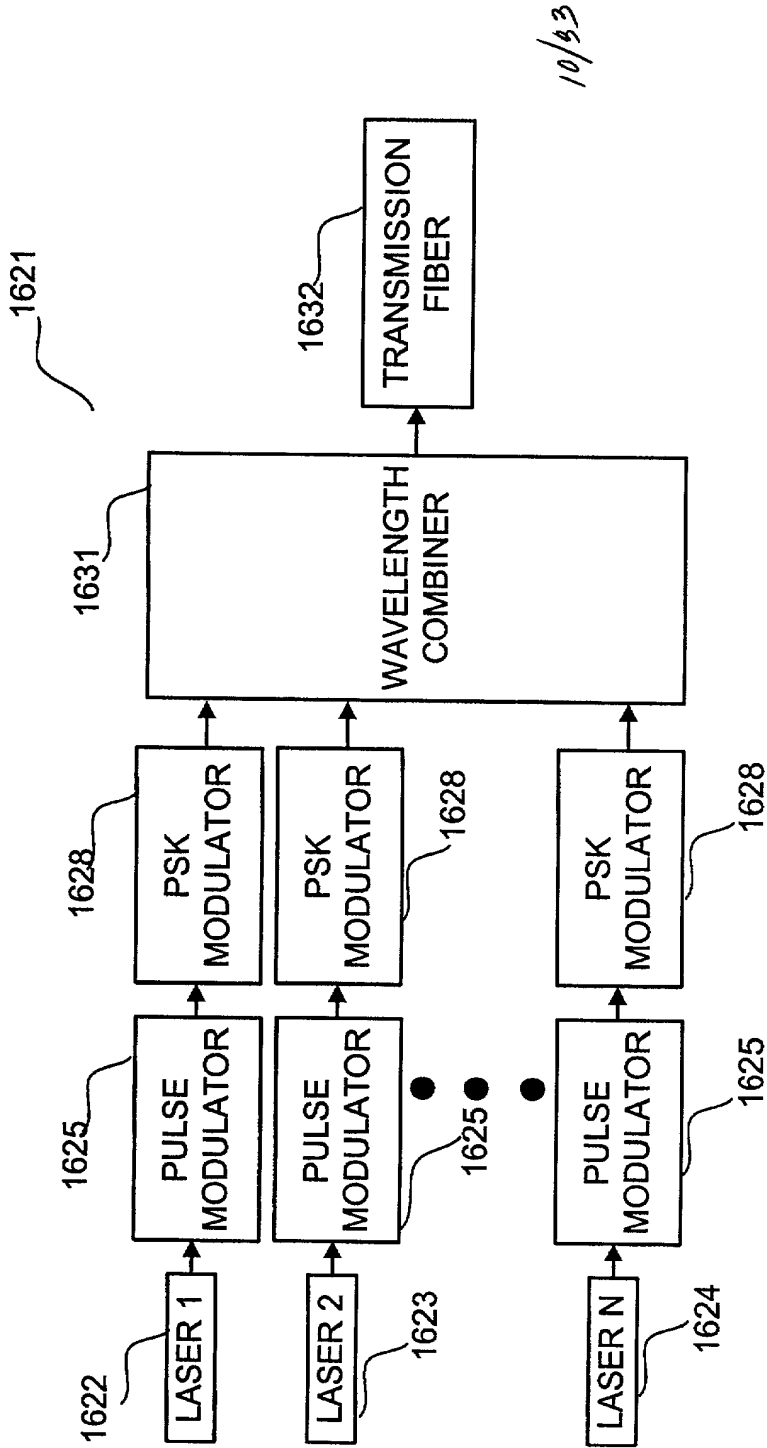


Fig. 8

FIG. 9 is a block diagram of a multi-laser system 1621. The system includes a plurality of lasers (LASER 1, LASER 2, ..., LASER N) connected to a series of pulse modulators (1625) and PSK modulators (1628). The outputs of the PSK modulators are combined in a wavelength combiner (1631), which is connected to a transmission fiber (1632).



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Fig. 9

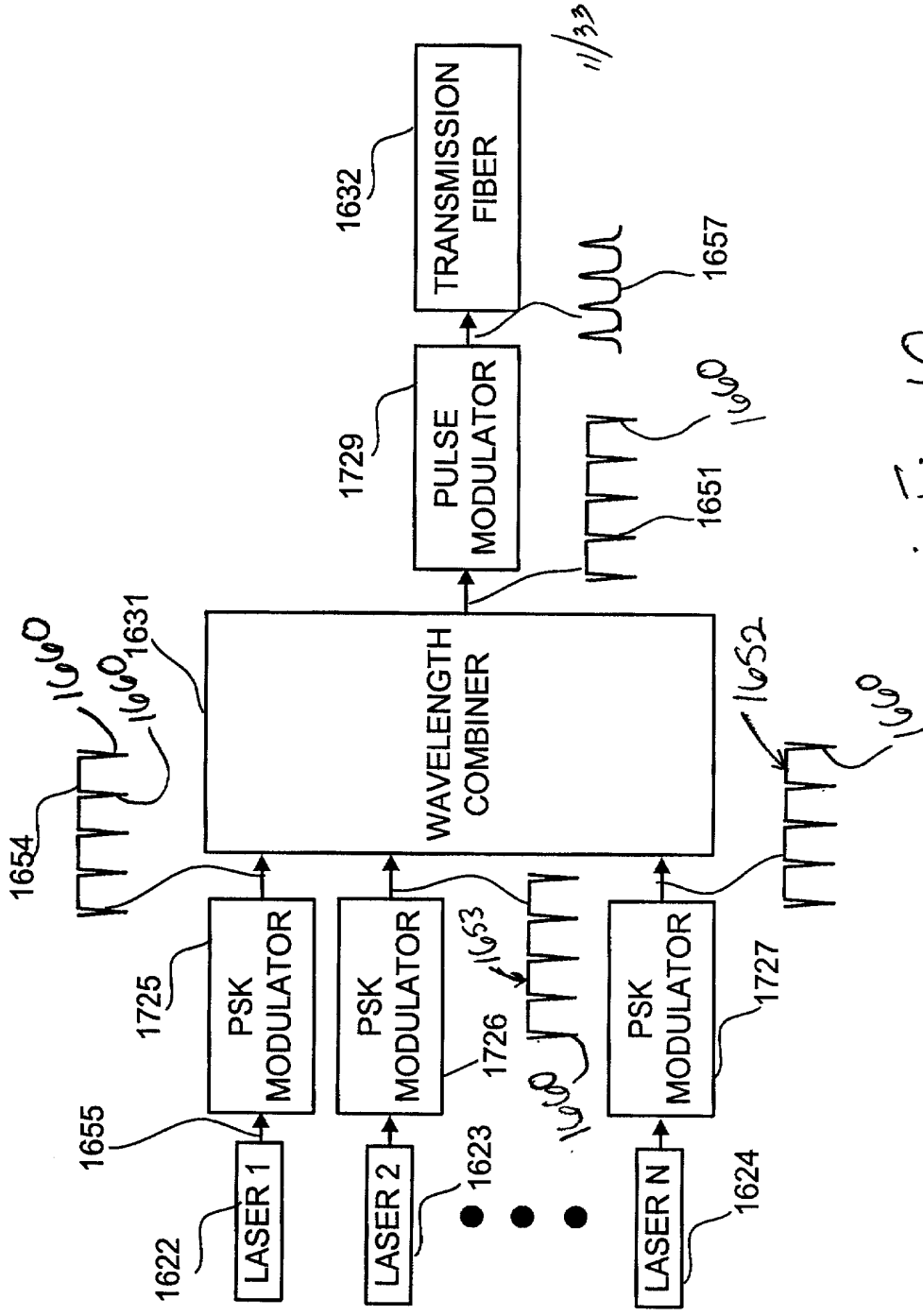


Fig. 10

FIG. 11 is a block diagram of a system 25 for transmitting and receiving data over a communication channel 35.

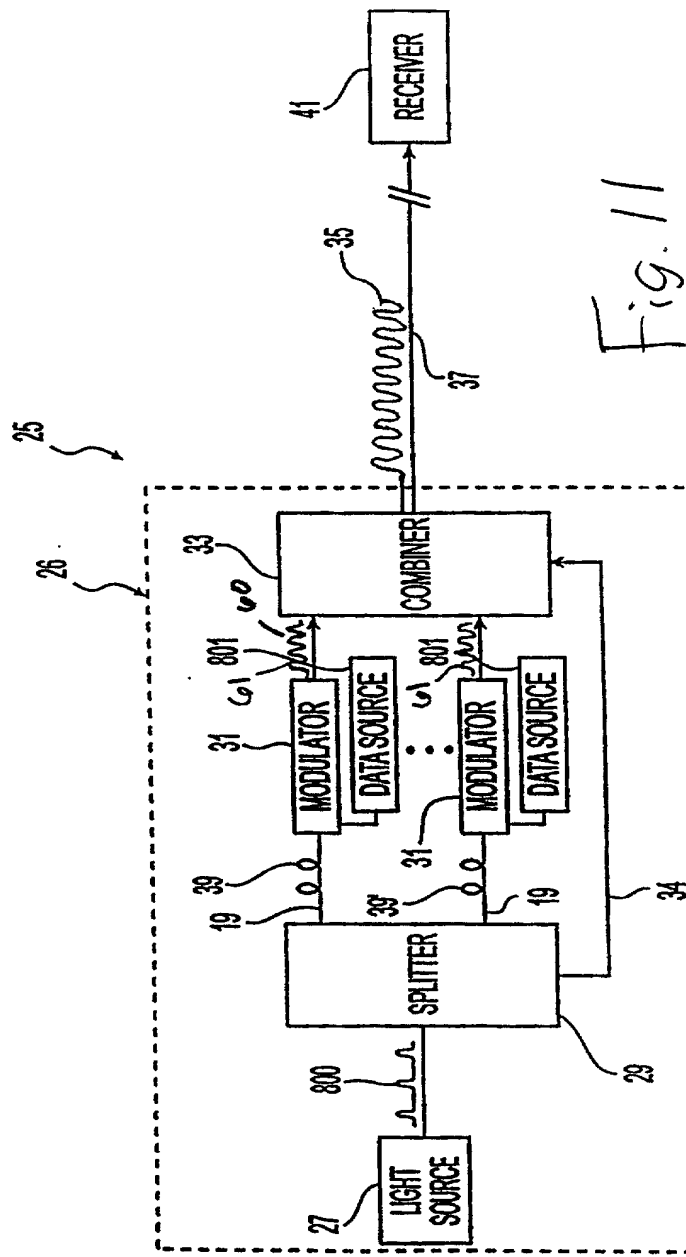


Fig. 11

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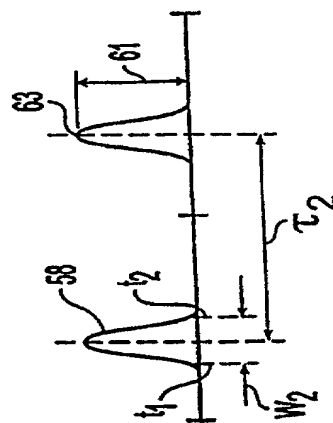
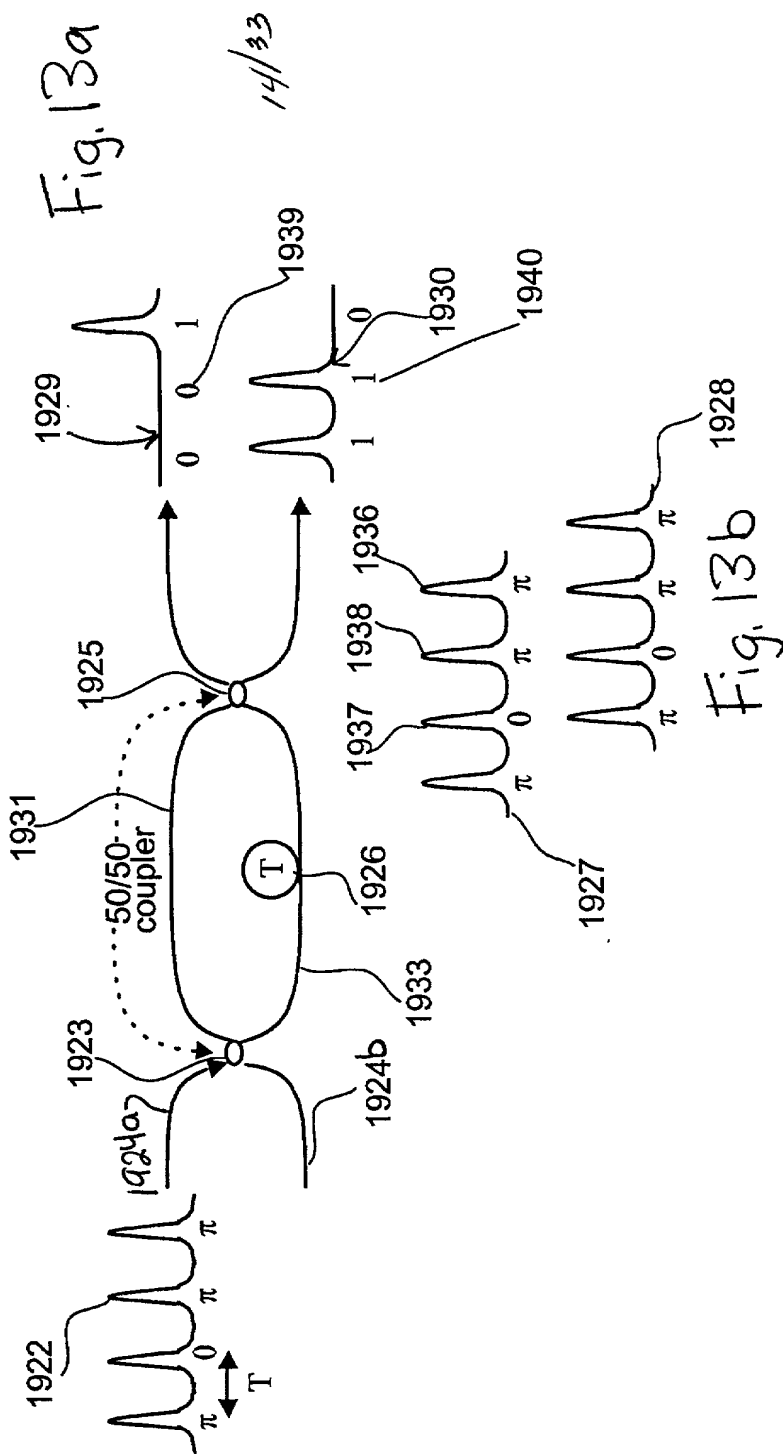


Fig. 12



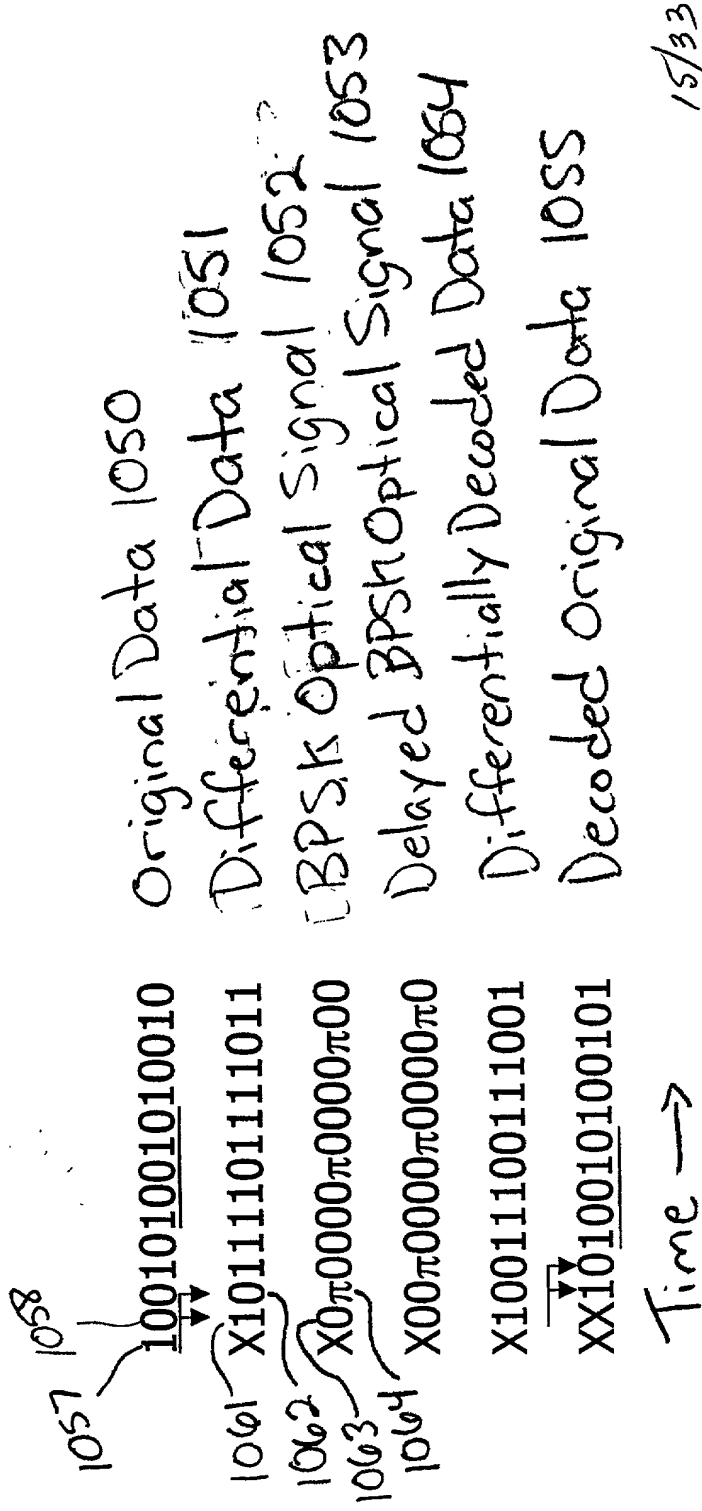
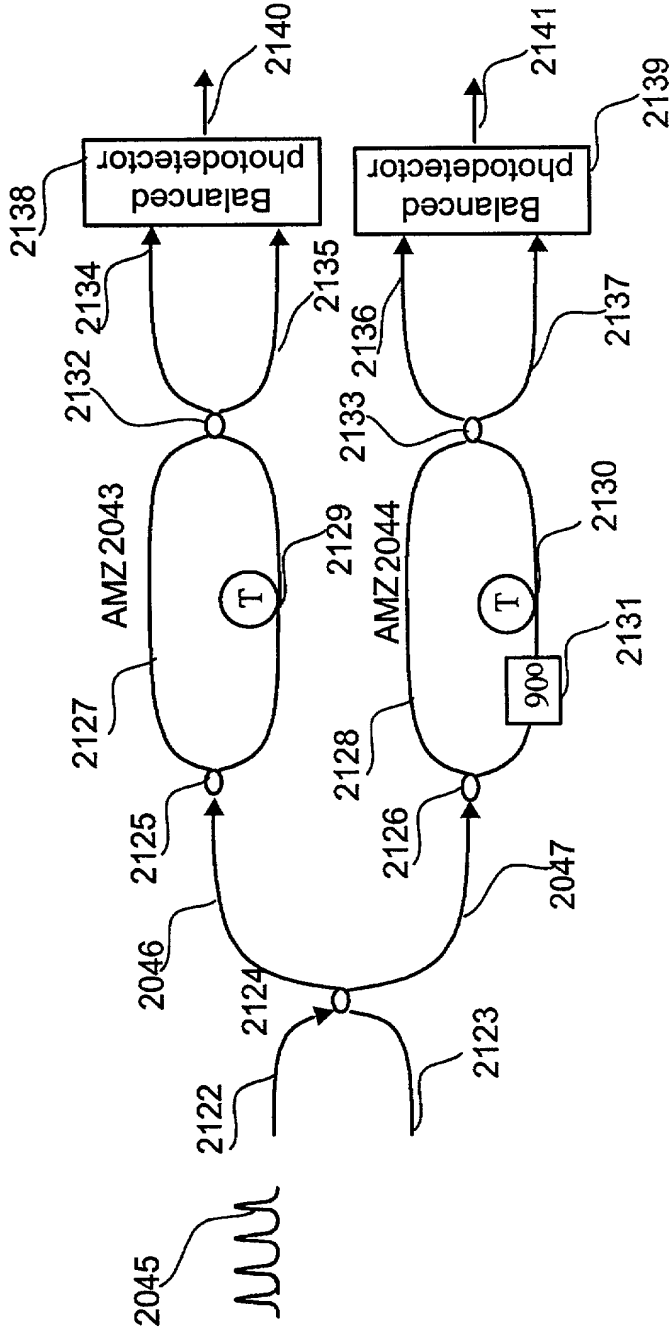


Fig. 14

FIG. 15 is a schematic diagram of a system 2100, according to one embodiment of the present disclosure.

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Fig. 15

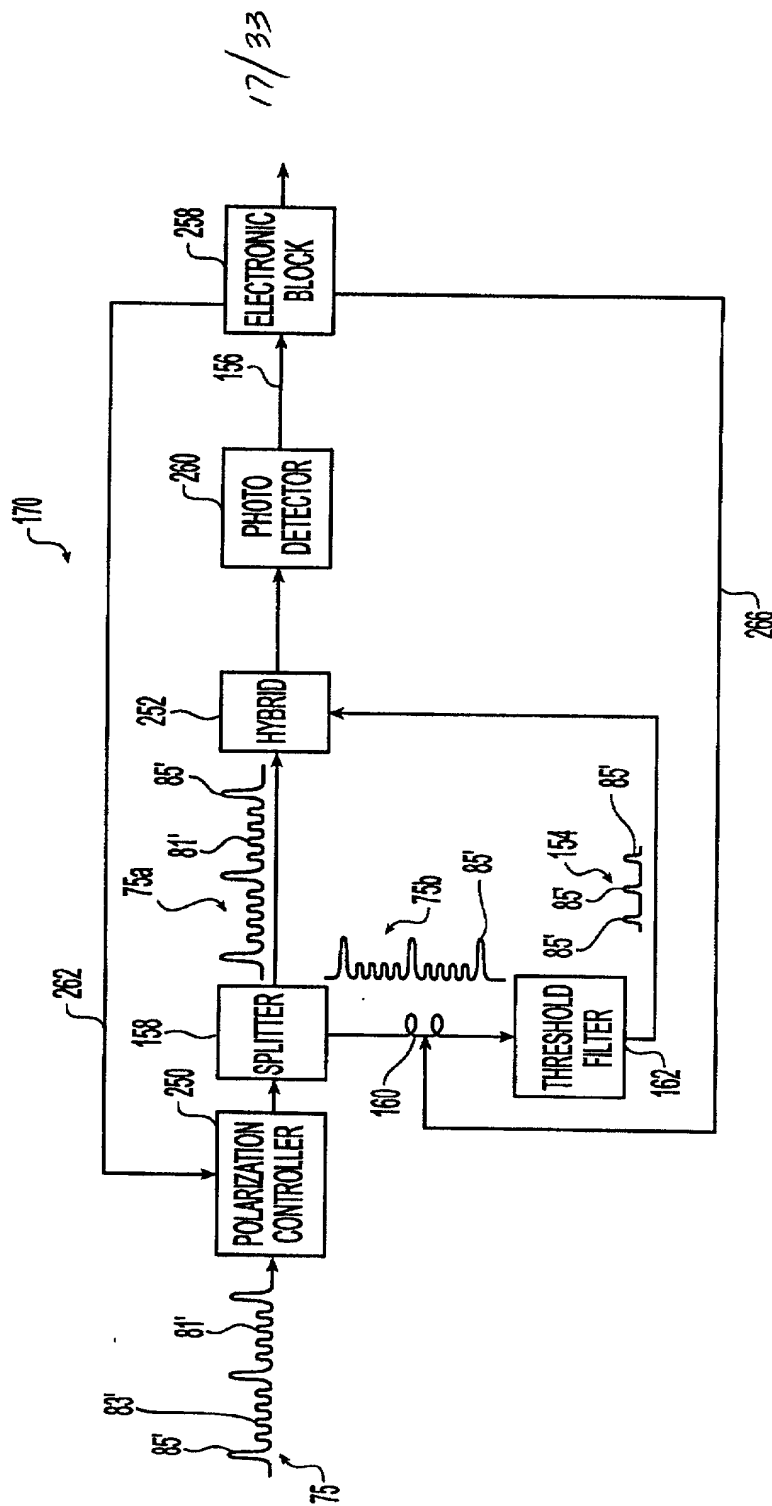


Fig. 16a

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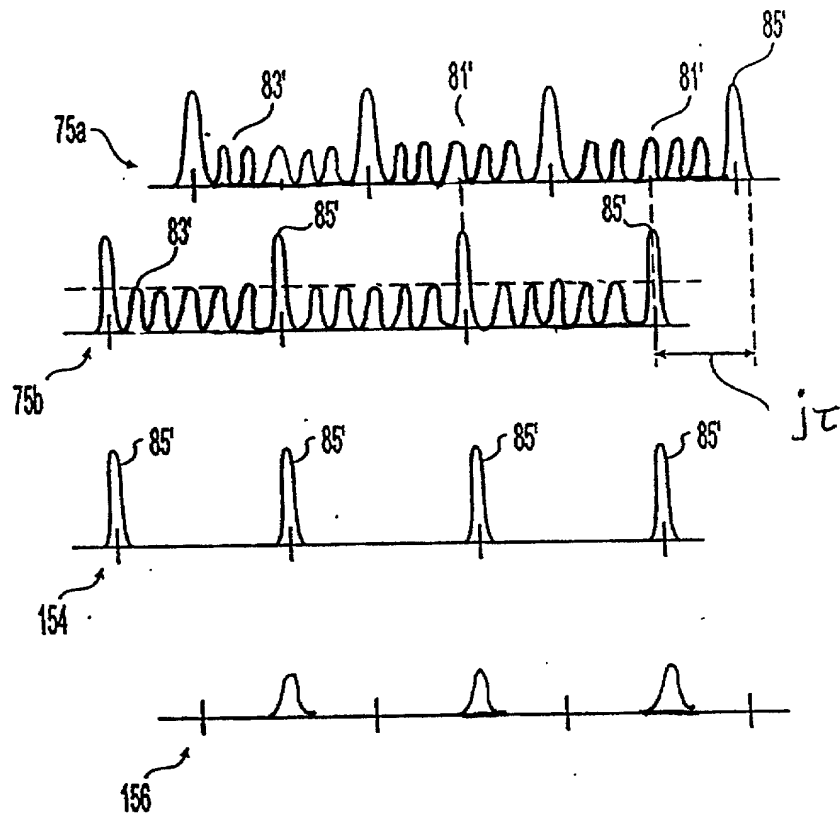
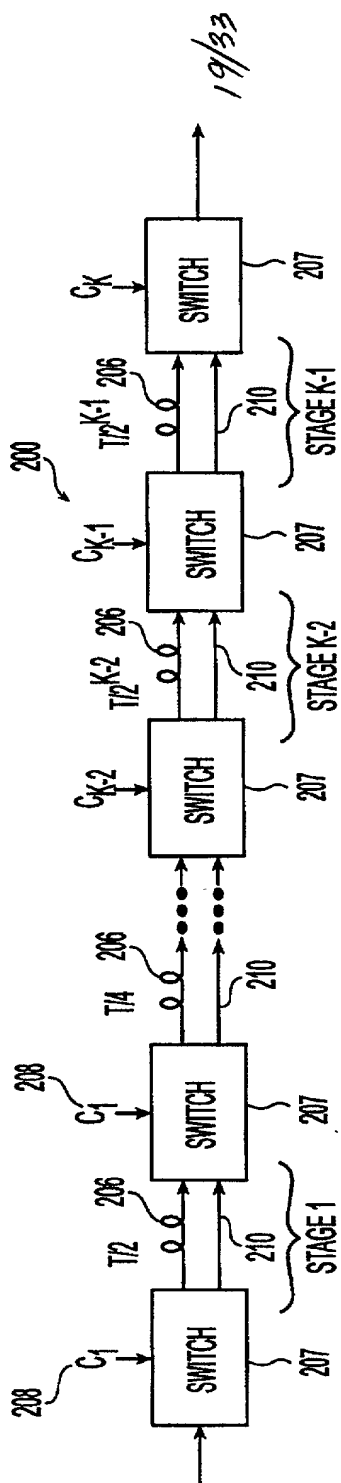


Fig. 16b



(Prior Art)

Fig. 17b

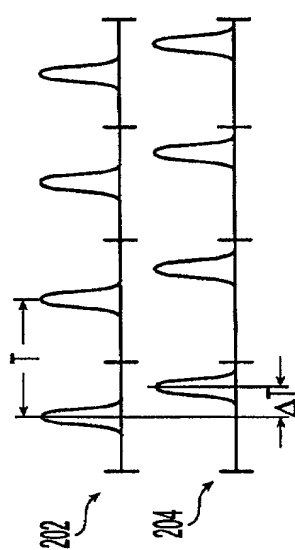


Fig. 17a

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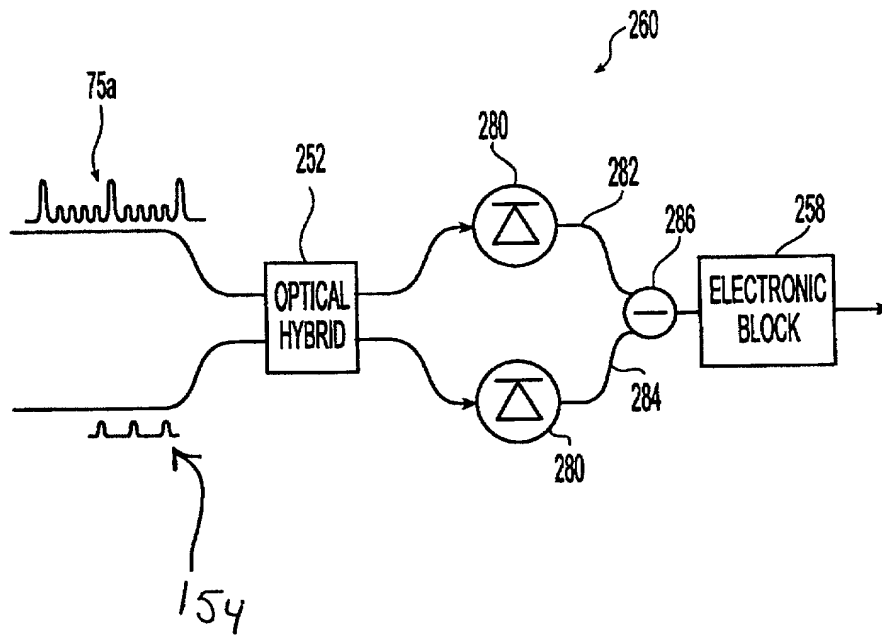


Fig. 18

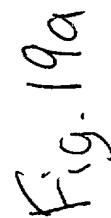


Fig. 19a

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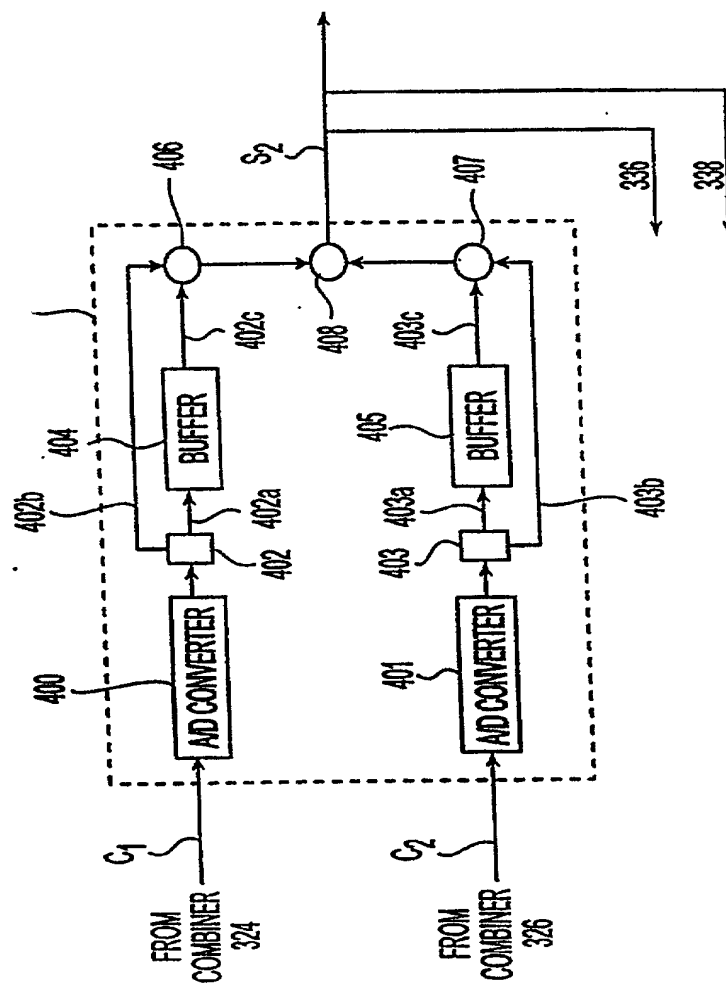


Fig. 19b

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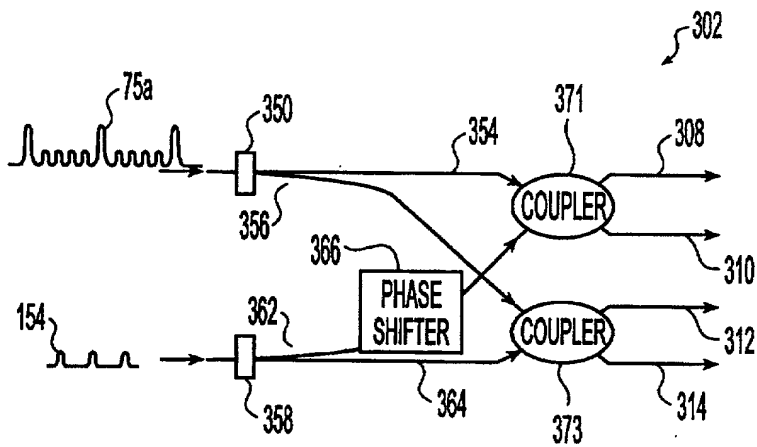


Fig. 20a

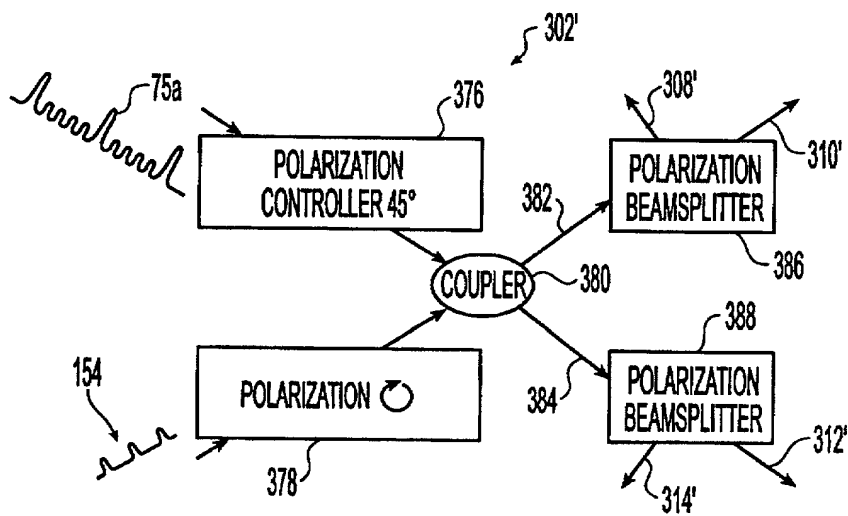


Fig. 20b

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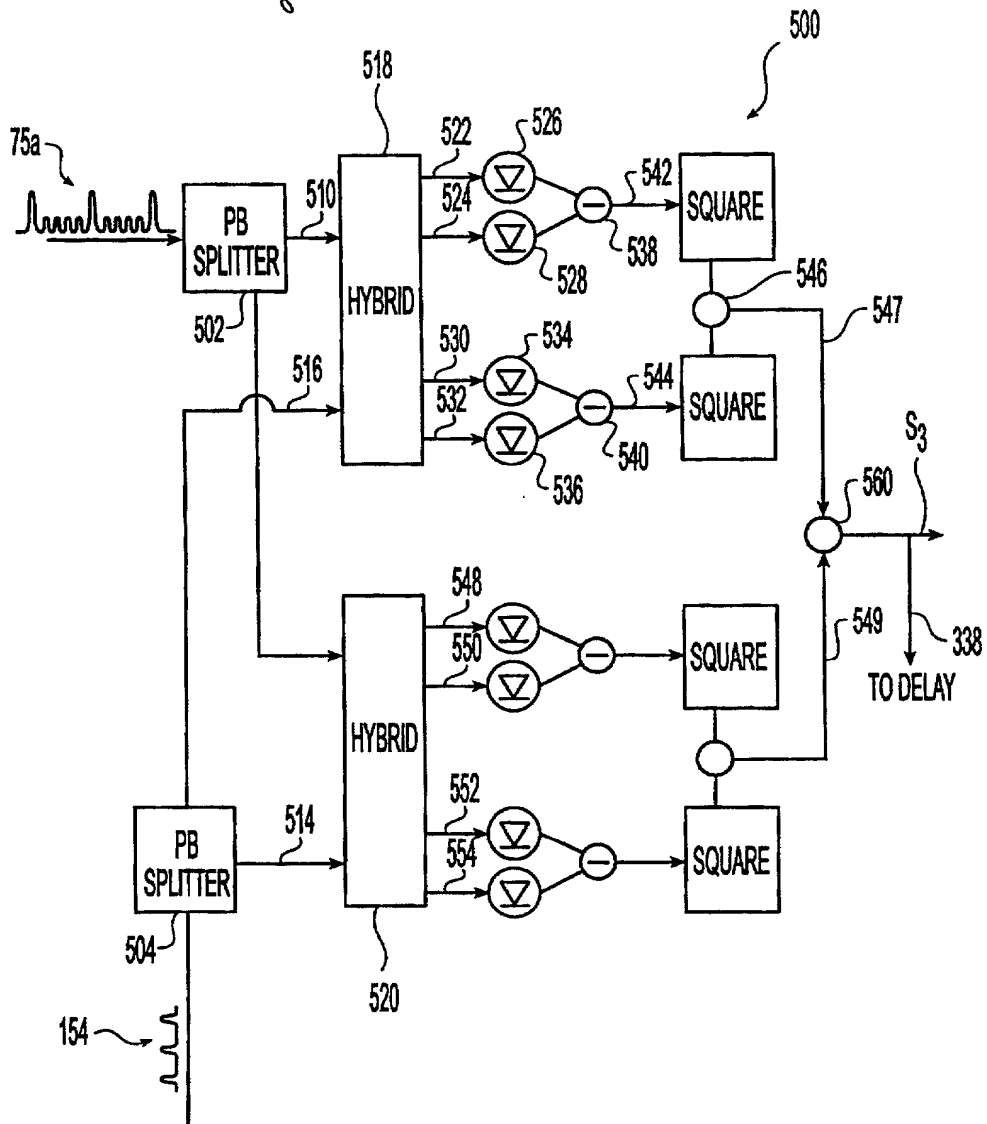


Fig. 21

FIG. 22 is a block diagram of a system 2000 for wavelength demultiplexing. The system 2000 includes a transmission fiber 2022, an asymmetric Mach-Zehnder interferometer 2023, a wavelength demultiplexer 2024, and a set of channels 2025-2027. The transmission fiber 2022 is connected to the asymmetric Mach-Zehnder interferometer 2023. The asymmetric Mach-Zehnder interferometer 2023 is connected to the wavelength demultiplexer 2024. The wavelength demultiplexer 2024 is connected to the channels 2025-2027. The channels 2025-2027 are labeled CHANNEL 1, CHANNEL 2, and CHANNEL N. The system 2000 is also labeled with a reference numeral 2000.

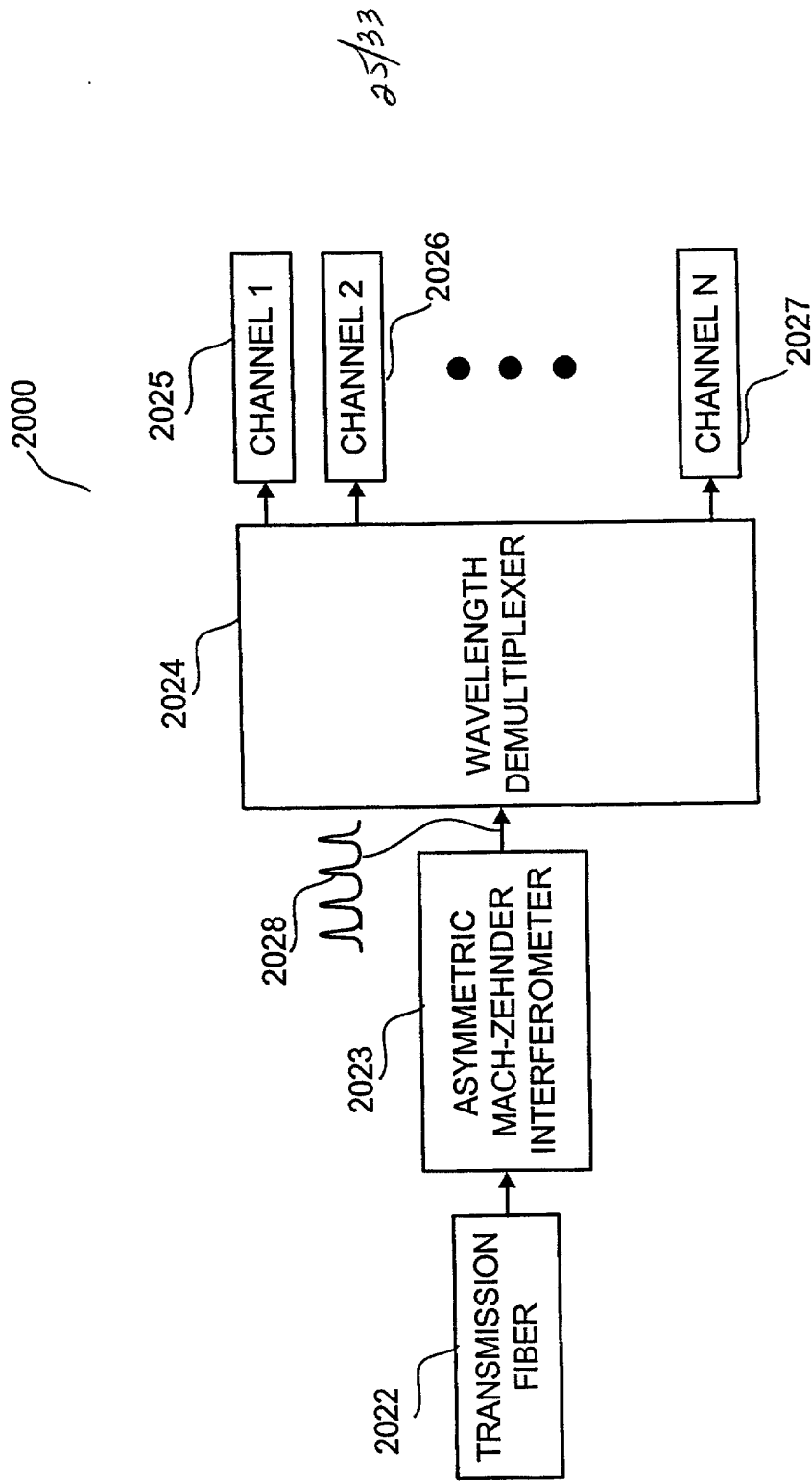


Fig. 22

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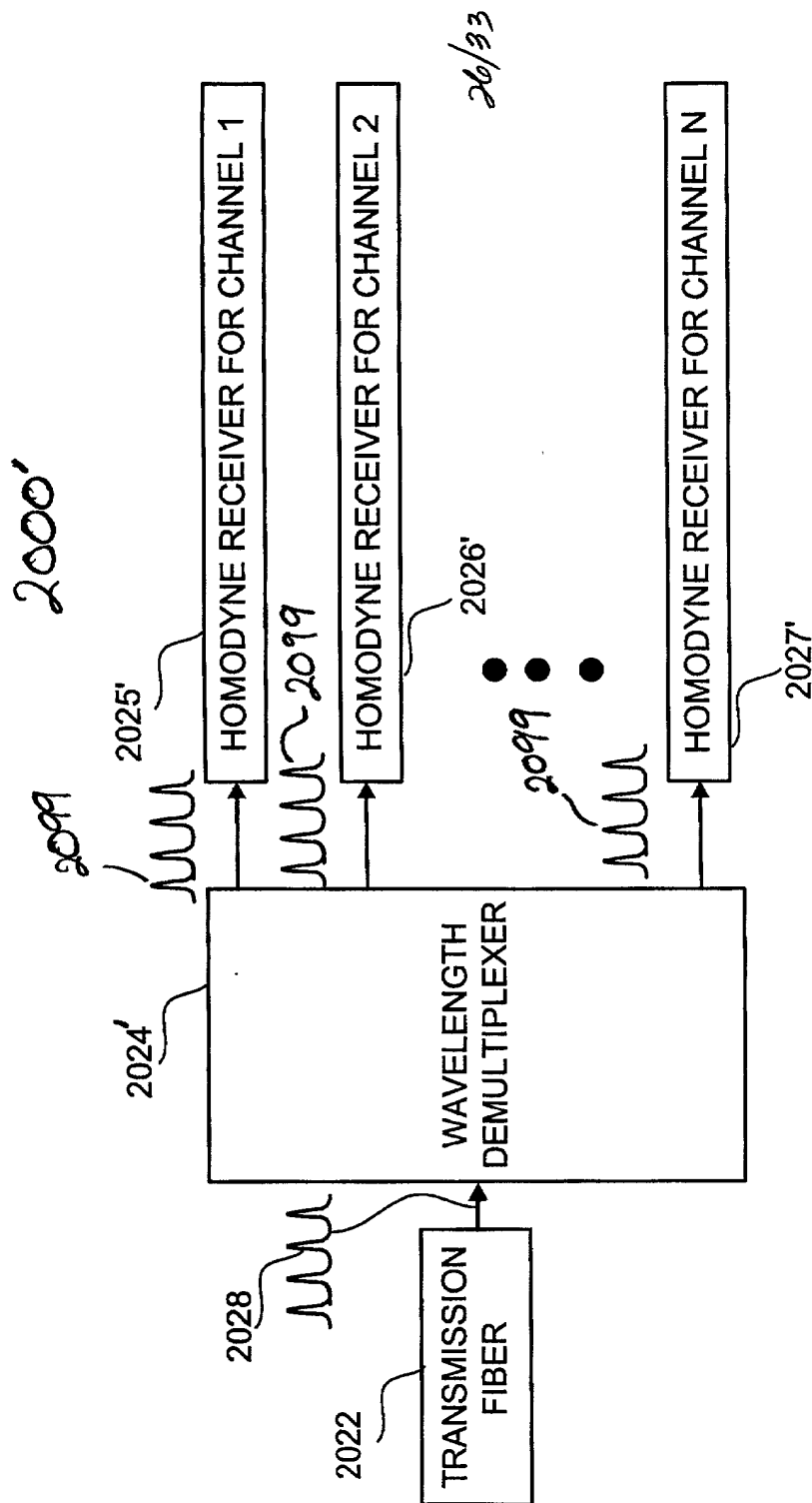


Fig. 23

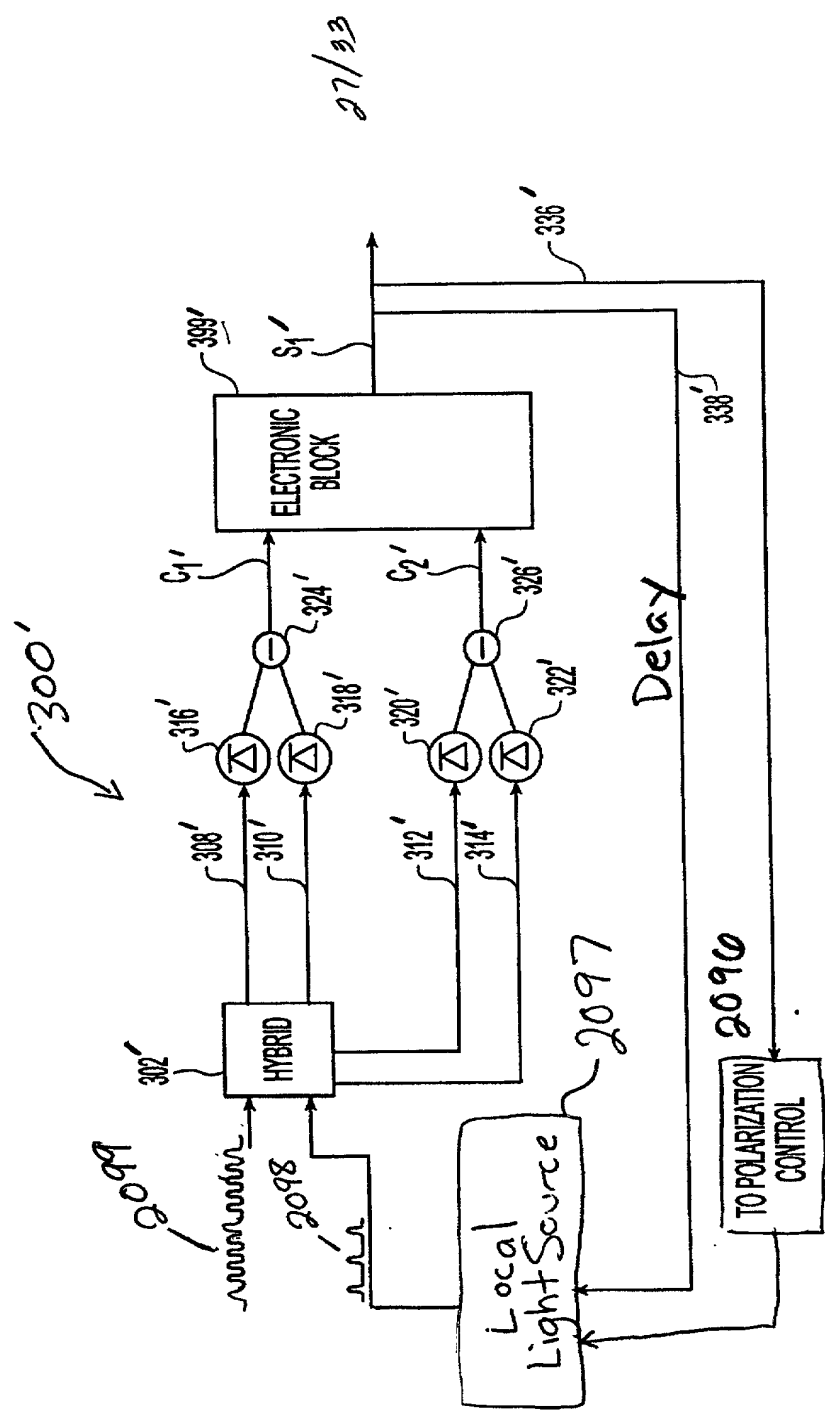
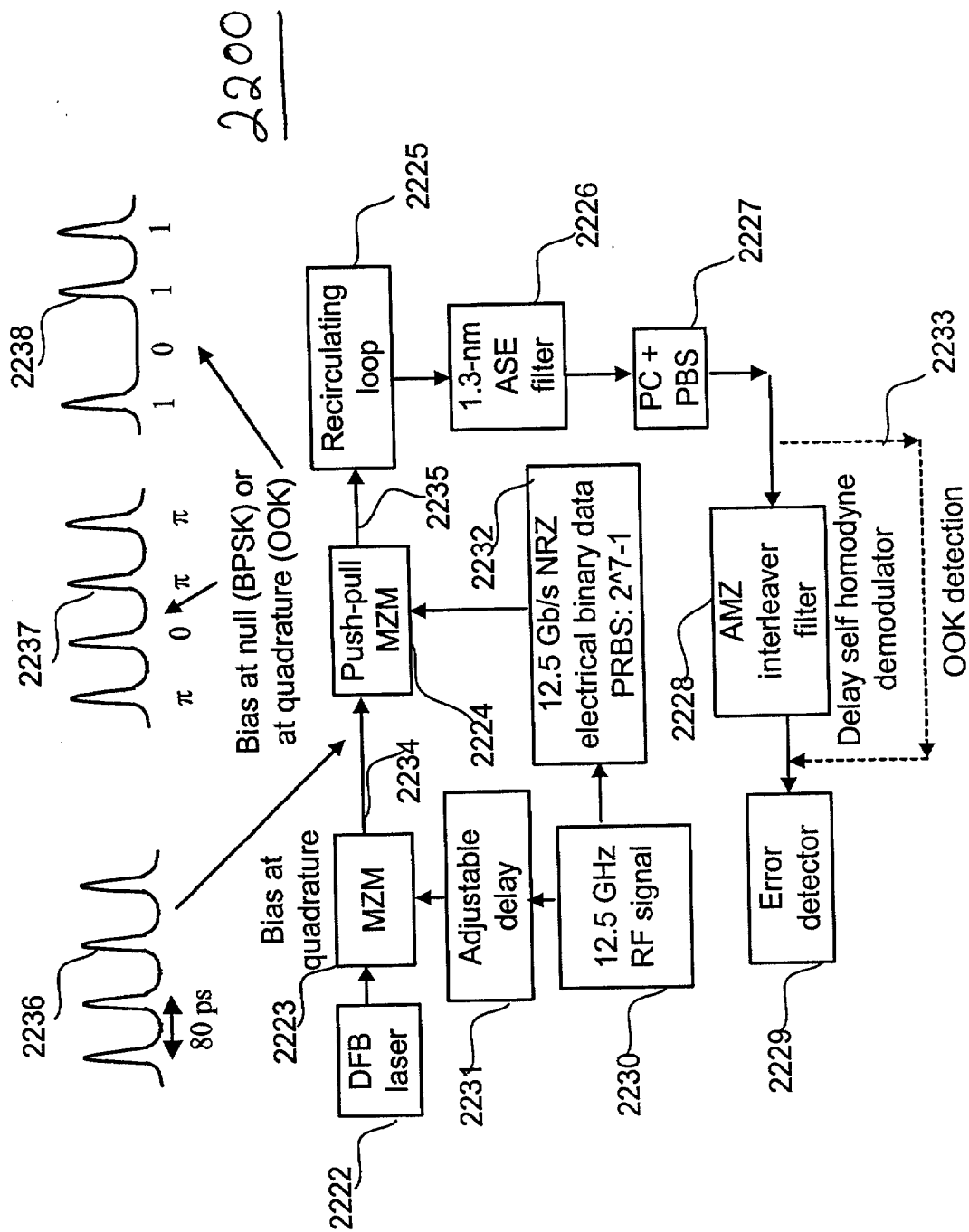


Fig. 24



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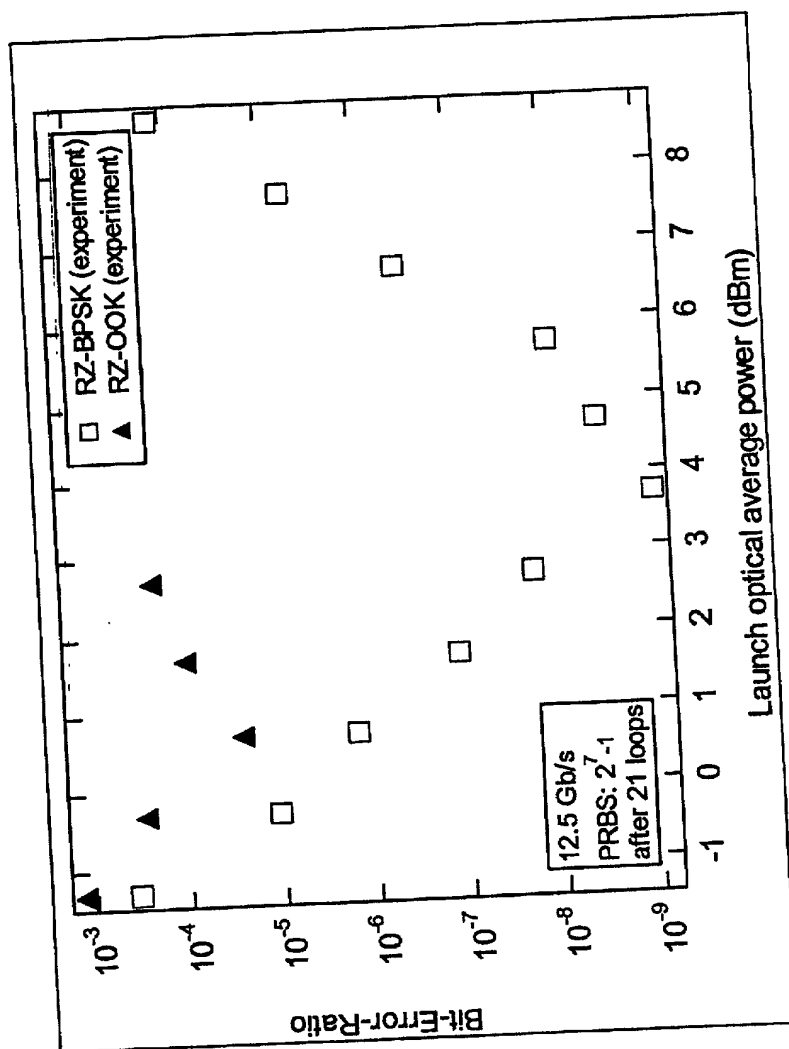


Fig. 20

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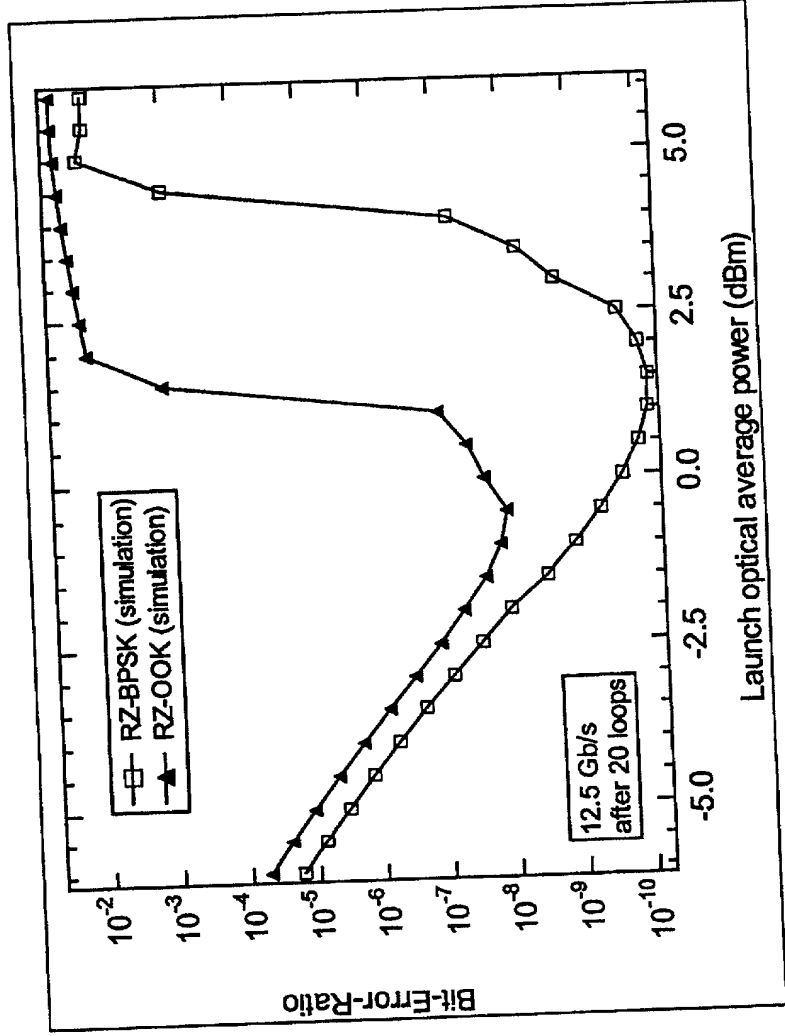


Fig. 27

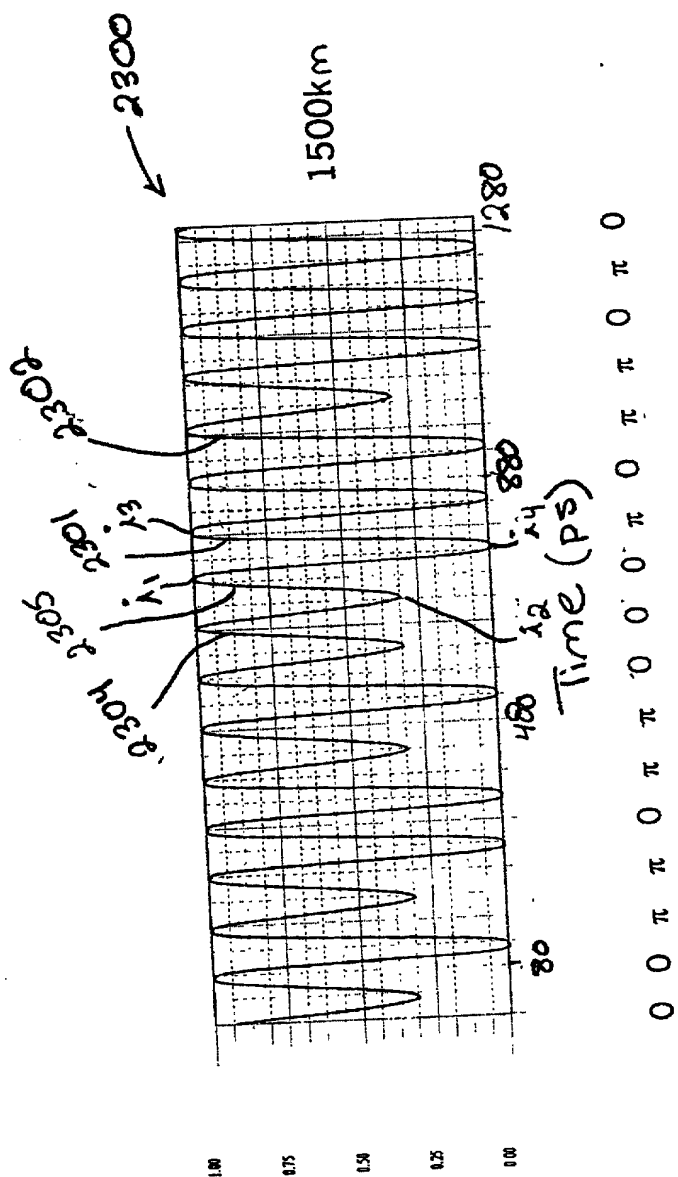
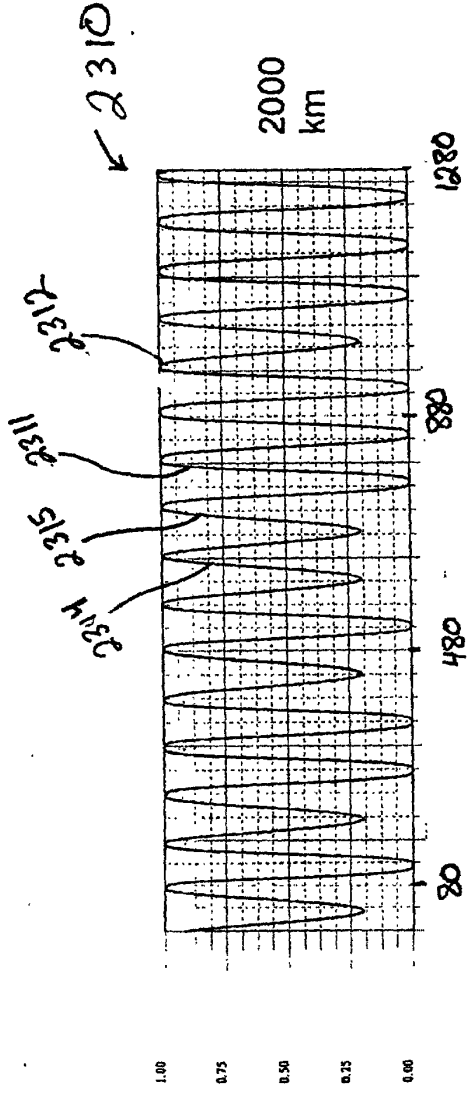


Fig. 28

2000 km



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Time (ps)

0 0 π π 0 0 π 0 0 π 0 0 π 0 0

Phase

Fig. 29

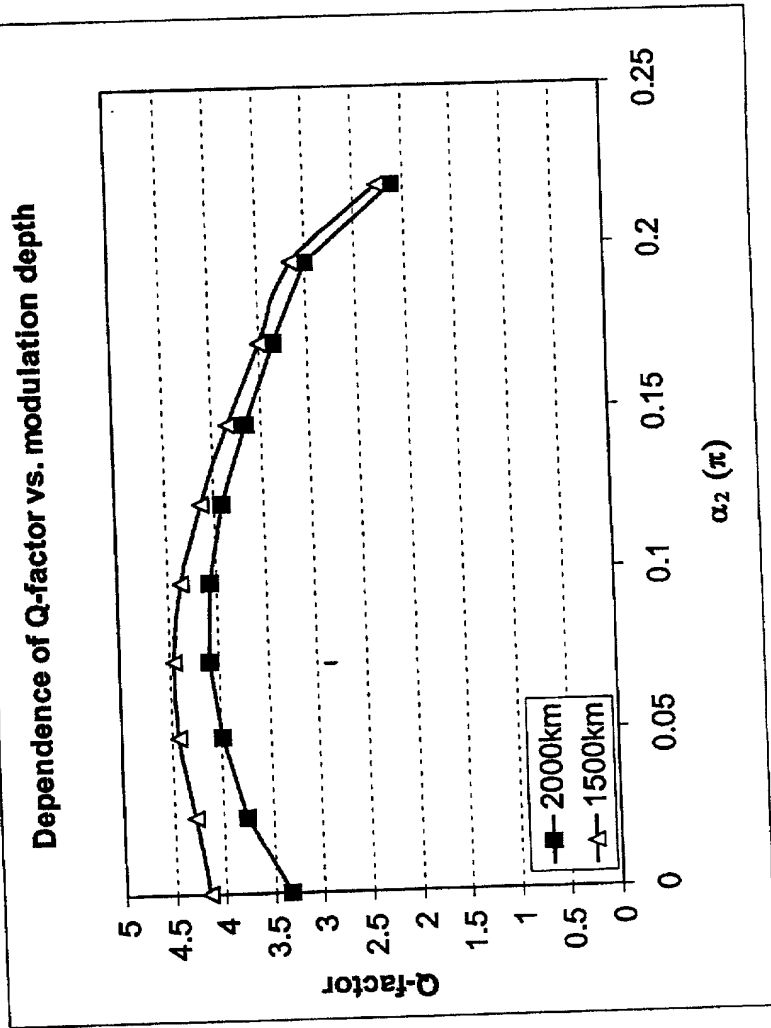


Fig.30

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